

Remarks

Claims 1-60 were pending prior to this amendment. Claims 1, 10, 21, 30, 41, and 50 are rejected. Claims 2-9, 11-20, 22-29, 31-40, 42-49, and 51-60 are objected to, but contain allowable subject matter. Claims 3, 11-20, 23, 31-40, 43, and 51-60 are cancelled by this amendment. Claims 1-2, 4-5, 8-10, 21-22, 24-25, 28-30, 41-42, 44-45, and 48-50 are amended by this amendment. Applicant has incorporated allowable subject matter from claims 3, 23, and 43 into remaining independent claims 1, 21, and 41. Applicant respectfully requests allowance of claims 1-2, 4-10, 21-22, 24-30, 41-42, and 44-50.

Claims 1, 10, 21, 30, 41, and 50 stand rejected under 35 U.S.C. §103(a) over U.S. Patent 6,003,029 (Agrawal) in view of U.S. Patent 6,272,477 (Kelly). Applicant has amended all remaining independent claims 1, 21, 41 to incorporate allowable subject matter from allowable claims 3, 23, and 43. Specifically, all independent claims now require that clusters be classified into cluster types.

In addition, the cited prior art does not render the rejected claims obvious. As amended, claim 1 requires:

- 1) processing time series data to generate hypersurfaces,
- 2) processing the hypersurfaces with membership functions to identify clusters and classify the clusters into cluster types,
- 3) processing the clusters from one of the cluster types to construct a feature, and
- 4) classifying the feature.

Agrawal teaches a specific algorithm to find clusters. (See Agrawal, Abstract). Agrawal does not teach the use of membership functions to process hypersurfaces, the classification of clusters by type, or the classification of features based on the clusters. Kelly teaches the creation of a multi-dimensional membership function – the hypertrapezoid. (See Kelly, Abstract) The hypertrapezoid is a membership function and not a hypersurface. Thus, Kelly does not teach the use of membership functions to process hypersurfaces, the classification of clusters by type, or the classification of features based on the clusters. Neither Agrawal nor Kelly teach the use of membership

functions to process hypersurfaces, the classification of clusters by type, or the classification of features based on the clusters.

The same reasoning is applicable to the other independent claims 21 and 41. The dependent claims are also patentable for these reasons. Applicant submits that there are numerous additional reasons in support of patentability, but that such reasons are moot in light of the above remarks and are omitted in the interests of brevity. Applicant respectfully requests allowance of claims 1-2, 4-10, 21-22, 24-30, 41-42, and 44-50.



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